# CHOLERA MAP

*Towns of 2000 Inhabitants and upwards visited by Cholera in Epidemic of 1848-50, marked thus ●*
*Towns not visited by Cholera marked thus ●*

ATLANTIC OCEAN

IRISH CHANNEL

Malin Head
Tory I.
Rathlin I.
Giants Causeway
Fair Head
Arranmore
Lough Foyle
Coleraine
Newtown Limavady
Londonderry
Letterkenny
LONDONDERRY
ANTRIM
DONEGAL
Strabane
Ballymena
Larne
Lough Neagh
Carrickfergus
Antrim
Cookstown
TYRONE
Omagh
Belfast
Donaghadee
Bangor
Newtownards
BELFAST LOUGH
Lisburn
Dungannon
DONEGAL BAY
Ballyshannon
Lurgan
Portadown
Tandragee Canal
Bromore
DOWN
Portaferry
Enniskillen
FERMANAGH
Armagh
Hanbridge
Downpatrick
Sligo
L. Gill
Upper L. Erne
Monaghan
ARMAGH
Raithfrylands
DUNDRUM BAY
BROAD HAVEN
KILLALA BAY
Lough Carrowmore
Clones
Newry
Ballina
SLIGO
MONAGHAN
Castleblayney
BLACKSOD BAY
Achil I.
L. Conn
Bellurbet
L. Oughter
Coothill
LEITRIM
CAVAN
Dundalk
CARLINGFORD BAY
DUNDALK BAY
Boyle
Carrick on Shannon
Cavan
L. Gara
L. Gowna
MAYO
Castlebar
L. Sheelin
Ardee
CLEW BAY
Clare I.
Westport
L. Ramor
LOUTH
Granard
ROSCOMMON
LONGFORD
Drogheda
Clare
Innistark
Longford
Kells
R. Blackwater
R. Boyne
Navan
Innisbofin
Innishark
CONNAUGHT
Ballinrobe
Roscommon
L. Mask
L. Owel
Mullingar
MEATH
Trim
Balbriggan
Skerries
Tuam
L. Corrib
L. Ennell
WESTMEATH
Athlone
Moate
Swords
Lambay I.
Maynooth
DUBLIN
Ballinasloe
Galway
GALWAY
Grand Canal
Tullamore
Rathmines
Rathgar
Ringsleigh
DUBLIN BAY
Blackrock
Kingstown
Howth
Mullaghmast
KING'S Co.
Loughrea
Banagher
Naas
KILDARE
Bray
GALWAY BAY
Portarlington
Mountmellick
Arran Isles
Parsonstown
QUEENS
Gort
Maryborough
Mountrath
Athy
Wicklow
COUNTY
Roscrea
WICKLOW
Ennistymon
LISCANNOR BAY
CLARE
Ennis
Nenagh
Carlow
Tullow
Arklow
Killaloe
Templemore
CARLOW
Baltinglass
Garvy
Freshford
R. Nore
Thurles
Kilkenny
KILKENNY
Graiguenamanagh
Thomastown
Tarbert
Limerick
Rathkeale
TIPPERARY
Cashel
Enniscorthy
MOUTH OF THE SHANNON
Listowel
Newcastle
Tipperary
Fethard
LIMERICK
WEXFORD
TRALEE BAY
MUNSTER
Charleville
Cahir
Clonmel
Carrick on Suir
R. Suir
New Ross
Wexford
WEXFORD HAVEN
Tralee
Abbeyfeale
Mitchellstown
Portlaw
Waterford
Dingle
R. Maine
KERRY
Dunmore
Tramore
Saltees
DINGLE BAY
Killarney
Killarney L.
R. Blackwater
Millstreet
Mallow
Fermoy
WATERFORD
Tallow
Lismore
Tipperary
Dungarvan
Valentia Harbr
Valentia I.
CORK
Macroom
Youghall
Middleton
YOUGHAL HAR.
L. Gurran
Cork
Cloyne
Bandon
Kinsale
CORK HAR.
KENMARE BAY
Bantry
Whiddy I.
Bear I.
Dunmanway
BANTRY BAY
Clonakilty
Skibbereen
COURTMACSHERRY BAY
Skerrin I.
Cape Clear

Browne & Nolan Lith. Dublin

# CHOLERA MAP OF IRELAND;

## With Observations,

BY


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# CHOLERA MAP OF IRELAND;

## WITH OBSERVATIONS.

The re-publication of this Map (1848-50), may perhaps be of some use at the present time. Whenever any panic prevails, there is a tendency in the mind of the public to run into extremes, and at present the panic is certainly that in reference to contagion.

My object in re-publishing this Map is to endeavour to show that contagion, admitting it to exist in cholera, is an element in the spread of disease less to be dreaded than the contagion of small-pox, typhus fever, follicular or typhoid fever, erysipelas, measles, or scarlatina. and that therefore there exists no good reason for considering cholera, in regard to contagion, in any light different from other epidemic diseases.

The Map was constructed, at my suggestion, in 1850,

by Mr. Hopper, the efficient Secretary of the Commissioners of the Central Board of Health in Ireland, in 1850, and the result when the Map came before me surprised me.

It was naturally to be expected, if contagion promoted by population, free intercourse, and the bringing of numbers together in commerce, trade, and manufactures, were an element of much power in propagating the disease, that the Map would shew that the greater number of towns attacked were in those parts of Ireland where trade, manufactures, and frequent intercourse, brought multitudes together; but the contrary is shewn by the Map, for in the whole of Connaught, and a considerable portion of Munster—its western portion—not a town escaped; while in the other provinces of Ireland, Ulster, Leinster, and the eastern parts of Munster, where trade, manufactures, and commerce brought much greater numbers together, the red dots are considerable in proportion, shewing the number of towns that escaped.

This is just the reverse of what would have occurred was contagion an element of power in propagating the disease. Connaught, with comparatively little intercourse on its seaboard with England and other countries, with a scattered population, without a single manufacturing town, does not shew a red mark—not a town escaped. A similar observation applies to the

western half of Munster; while the north of Ireland, with its teeming population, its manufacturing towns, bringing great numbers together of all ages, its seaports and factories, shews a large proportion of red dotted towns. This observation also applies to nearly the whole eastern half of Ireland; so that if we divide the Map, by a line extending through the centre of Ireland, from north to south, we arrive at this result—that the western half, with a scattered population, with little traffic, with little direct intercourse with other countries, without factories to bring numbers together; in fact, with the least means of conveying contagion, does not shew more than five towns free from the visitation; while the eastern half of Ireland, that on the right hand side of the line, with its populous cities and towns, its numerous seaports, roads, and factories, presenting all the facilities for the conveyance of contagion, shews a very large proportion of red dotted towns, or towns that did not suffer from the visitation. The numbers will stand thus in provinces:*

ULSTER.—34 towns of 2,000 inhabitants and upwards; of these, 17, or exactly one half, escaped the visitation of cholera.

* *Vide* Report of the Commissioners of Health, Ireland, on the Epidemics of 1846 to 1850, presented to both Houses of Parliament by command of Her Majesty.—Dublin: Printed by Alex. Thom, for Her Majesty's Stationery Office, 1852.

LEINSTER.—41 towns of 2,000 inhabitants and upwards, of which 9 escaped; 32 were visited by cholera.

MUNSTER.—47 towns, of which 5 escaped and 42 suffered.

CONNAUGHT.—14 towns, of which not one escaped.

It appears to me impossible to look at the Map and these returns, without admitting the conclusion, that whether cholera may or may not become contagious, the element of contagion is of comparatively little importance; and that our best protection will be, not in devoting too much of our energies to combat this element, but in improving the safeguards or protective powers that will render the frames of the people able to resist the influences that spread the disease, telluric, atmospheric, or contagious, as they may be.

In the year 1849, the Commissioners of Health, Ireland, addressed to the several medical officers throughout the country, from whom reports were received of the first appearance of cholera, a circular, with the view of eliciting information on the disputed question of contagion :—

"To this, thirty-seven replies were received, which may be thus classed: eight, doubtful; six, in support of the view of the first attack in the locality owing its origin to contagion; and twenty-three replies, stating that the attack could not be traced

to importation or contagion."—*Vide* "Report of Commissioners of Health, Ireland, on the Epidemics of 1846 to 1850, presented to both Houses of Parliament."

Those who have had long experience of the disease in the East, appear to attach comparatively little importance to the element of contagion.

Dr. Gavin Milroy, Sanitary Commissioner, Jamaica and the Crimea, writes :—

"My observation of the disease in several epidemics, both in this country and abroad, has led me to the opinion, that in roomy and well-ventilated apartments, its (cholera) contagiousness, or liability to spread from the sick to other persons near them or attending upon them, is so weak, that but little danger is to be apprehended from admitting cholera patients into the ordinary wards of a general hospital."—*Vide* "Report of Council of Epidemiological Society," July 9, 1866.

Dr. John Sutherland, Commissioner of H. M. Government at the International Sanitary Conference on Quarantine, Sanitary Commissioner to the Army in the Crimea, writes as follows :—

"Districts where cholera is likely to appear are well known to all parochial surgeons. They are the usual epidemic districts, * * *"

As to the hospital arrangements, he observes :—

"I should apply the same rule on this subject in regard to cholera that I should apply to other epidemic diseases. * * * * When epidemics prevail, the great principle to be adopted is dispersion, not aggregation, of cases. * * * Special wards have been successfully used in general hospitals ; but they should not be resorted to unless other accommodation cannot be obtained."

Dr. Jackson, late of the Bengal Army, Presidency Surgeon, &c. &c., writes :—

"The objections to admitting cholera patients into general wards are—the distressing nature of the illness, the agony of the spasms, the urgent cry for water, the death-like character of the patient within a few hours after admission, and the fear of panic effecting great alarm, and producing the disease in others. Still the advantages of the general hospital are great—the supply of experienced physicians, nurses, and all the adjuncts for treatment. Where the disease is frequent, as amongst the military hospitals in the East, a general sympathy for the sick patient, rather than any inconvenience or panic, is produced. * * * When a number of cholera cases are collected, a cholera atmosphere is produced, which acts very prejudicially upon those around and in attendance. * * * In the general hospitals in India or in private houses I have not known instances of nurses or servants being taken ill."

Dr. Stuart, Surgeon-Major, retired, Her Majesty's Bombay Army, writes :—

"* * Persons suffering from cholera may be admitted into the ordinary wards of hospitals and infirmaries without danger to the health of the other patients, as, in various instances where cholera has appeared with severity among the troops under my charge in India, both on the march and in camp, I have had no other resource but to mingle them with the other sick, and in no instance can I remember any evil result ensuing, certainly not any appearance of cholera among the other sick."

Dr. Fraser, Senior Physician to the London Hospital, is of opinion that cholera patients may be admitted into the ordinary wards of general hospitals or infirmaries without danger to the health of other patients.

Dr. Barham, Senior Physician to the Westminster Hospital, writes :—

"1. My experience is, that persons suffering from cholera may be admitted into the ordinary wards of general hospitals or infirmaries without danger to the health of other patients. I have received into my wards at the Westminster Hospital, during the last two epidemics, numerous cases of cholera, particularly during the epidemics of 1848-9, and in no one instance did the disease manifest itself among the other patients, nor extend to the nurses or servants of the hospital.

"2. My opinion is, that the more the cases are congregated together into special wards or special hospitals, the greater the risk. * * *

"3. * * In every form of epidemic disease, I am strongly of opinion that the general hospitals should always take the lead in the admission and treatment of cases. It is only when the disease has become so wide spread, or the cases so numerous, and the capabilities of the general hospitals taxed to their utmost, that the necessity for special hospitals can be needed."

Dr. Bowerbank, Jamaica, writes in similar terms.

Sir J. R. Martin, C.B., F.R.S., Inspector-General of Hospitals, and Physician to the Secretary of State for India in Council, writes :—

"In the Calcutta European General Hospital, in which epidemic cholera has been largely observed since 1817, and in which infection from the disease has hardly yet been suspected, sufferers from this epidemic have been and are placed in the ordinary wards of the institution. I served in this great hospital as assistant surgeon, and as surgeon, and I never had reason during years that I was thus placed, to suspect danger to the health of the other patients."

Dr. Gull, Physician and Lecturer on the Practice of Medicine, Guy's Hospital, writes :—

"During the last two epidemics of cholera in London, this practice (admitting cholera patients into the ordinary wards of general hospitals) more or less extensively prevailed in Guy's Hospital, without any extension of the disease to other patients."

Dr. Chadwick, Senior Physician to the Leeds General Infirmary, says :—

"There can be no question that cholera patients may be admitted into general hospitals, and I believe without much danger to patients as regards their health : in the same way that in some general hospitals fever cases are so admitted, which I consider far more risky than admitting cholera patients."

My own reply was as follows :—

"I have admitted them (cholera patients) into the wards of the Hardwicke Fever Hospital, Dublin, in visitations of cholera, and I never saw any ill consequence. * * * I think that special hospitals should be avoided, and that our general infirmaries should be open to cholera indifferently with scarlatina, measles, typhus and typhoid fevers, &c. It may happen that our ordinary hospitals might not be sufficient to meet a sudden and extensive outbreak, and then it may be necessary to supplement them."

The present Physicians of the Hardwicke Fever Hospital, Dr. Banks, Dr. M'Dowel, Dr. Gordon, and Dr. Lyons, have in like manner opened the wards of the Hardwicke Hospital to cholera in common with other epidemic diseases.

There are, as naturally to be expected, several

replies to the queries of the Council of the Epidemiological Society, expressing the utmost dread of contagion, holding it forth as the great and paramount agency to be dreaded, and in some instances suggesting impracticable measures, such as, for example, to chemically destroy the evacuations, and not permit them to contaminate the drainage, to construct special hospitals of light iron structures, with floors of some non-porous material, to enforce strict isolation of all nurses, attendants, and persons in connection with cholera hospitals, &c., &c.

If we divide the replies into two classes—those who give their opinion from long hospital experience and personal observation, and those who theorize or naturally express apprehension—I think the balance is greatly on the side of contagion being an element of comparatively minor power in propagating cholera.

It may be assumed as admitted by all, that cholera is less contagious than typhus or typhoid fever, measles, scarlatina, or small pox. This being admitted, there is then no good reason for treating cholera differently from other epidemic diseases, and for shutting the doors of our hospitals instead of opening them wider, when cholera takes the place of fever.

On the subject of contagion, the Commissioners of Health, Ireland (*Vide* Report published by both Houses of Parliament, 1852), observed—

"Differences of opinion still exist as to the contagious or non-contagious character of the disease, but the weight of evidence is decidedly in favour of the opinion, that contagion has little if any influence in its propagation. Individual cases sometimes occur which would seem to lead distinctly to the conclusion, that personal infection did occur, but it must be always remembered, that persons in connexion with the sick are equally with all others liable to be affected by the epidemic, and it becomes a matter of impossibility under such circumstances to determine in any given case, whether the attack has proceeded from contagious or epidemic influence; but this objection does not apply to cases in which the disease has originated without previous exposure to contagion. * * * The following instance of the first appearance of the disease in the Convict Depot, Smithfield, Dublin, appears to prove satisfactorily that the disease may originate without the agency of contagion:—

"John Moran, committed on January 7th, 1848, was taken ill of cholera, on Saturday, 24th of February, 1849, at 3 o'clock P.M., died at $3\frac{1}{2}$ o'clock, A.M., 25th; duration of illness, 12 hours. Moran had been under the same circumstances as all the other convicts, *had no intercourse whatever with any person from without, nor with any within the walls except with his fellow prisoners and with the turnkey*, whose only communication with him was unlocking the door of his cell in the morning, and locking his cell door at night. The turnkey is in perfect health. No admission of prisoners since 11th January, until 20th February, when ten were admitted, all in good health on admission, and remained in good health and in a different part of the building, and had no communication with the deceased, as they did not belong to the same class of prisoners."—(*Vide* Report of Commissioners of Health, Dublin, 1852, p. 30).

It must also be remembered, that the contagious entity of disease, the "*Materies Morbi*," the matter of contagion, has never yet been laid hold of or demonstrated; that in the many experiments made by mem-

bers of the profession, to test its contagious power, by lying in cholera beds, wrapping themselves in cholera sheets, and absorbing the secretions of cholera patients, all attempts to convey the disease by contagion have failed. We must therefore admit that the evidence of contagion is, logically speaking, only a probability, and that contagion, admitting it to exist, is of very limited power, while on the other hand, we have in the history of the outbreaks of cholera in Europe and India, hundreds of instances to prove that it bursts out and disappears as an epidemic, irrespective of contagion.

Were I to hazard an opinion, I should say, that cholera depends on telluric influence, more than on any other agency; an agency that may be brought into action, by causes over which man may have no influence, as in the Cholera Zones of India, or that may be generated by neglect in our own sanitary arrangements on land, or imitated on shipboard.

It may, and very properly, be asked, what harm can result from holding up personal contagion as the great and paramount agency and evil destroyer, to be dreaded and to be fled from?

My answer, I hope, will be sufficient, and will justify me in combating the prejudice, as I consider it, now abroad.

The effect of an exaggerated fear of contagion is

most depressing on the mind and bodily health of the people ; it leads them to put their trust in flying from it, instead of trusting to preserve mind, spirits, and physical constitution in such a state of energy and health, as to make them feel assured they can resist it, admitting it to exist.

The fear of contagion demoralizes the mind, and extinguishes the best affections of the heart :

" When the evil had become universal, (speaking of Florence), the hearts of all the inhabitants were closed to feelings of humanity. They fled from the sick and all that belonged to them, hoping by these means to save themselves. Others shut themselves up in their houses, * * * None were allowed access to them ; no intelligence of death or sickness was permitted to reach their ears."

This picture (*vide* Hecker's Epidemics of the Middle Ages, p. 47) is of a past period, but I regret to be obliged to say, that I could, from personal observation in some cases, and from undeniable evidence in others, almost parallel the above quotation, in occurrences of 1832 and 1849. We must take care, then, not to let our views drift with a course likely to deprave the morals as well as the capabilities of our people to resist an epidemic ; and I know of no course more likely to be attended with this evil result, than when an epidemic of cholera occurs, to close our general hospital doors against the sufferers, instead of opening them wider ;

thus practically telling them that they are to be shunned, and that all are to fly from them.

"In the end, so completely had terror extinguished every kindlier feeling, that the brother forsook the brother—the sister the sister—the wife her husband; and, at last, even the parent his own offspring, and abandoned them, unvisited and unsoothed, to their fate."—*Vide* Hecker, p. 48.

If an epidemic of cholera were now to last long, the result would be the same, under the baneful influence of exaggerated fear of contagion.

I have never been quite satisfied that the cholera of the last thirty or forty years is a thoroughly new disease. I cannot find, as far as description goes, any *essential* difference between the cholera of 1669, as described by Sydenham,* and what we now designate as Asiatic Cholera, the only distinction being in extent and degree.

From all I have thought and stated here, and I could add many more facts and much more reasoning, I believe, in support of my views, the conclusions I desire to advance are the following:

* "At the close of Summer, (1676), the Cholera Morbus raged epidemically, and * * * was accompanied with more violent and inveterate convulsions than I had before observed, * * * so that the patient would sometimes leap out of bed."—*Swan's Translations*, p. 301.

In the account of the Epidemic of 1669, he says, "The Cholera Morbus is easily known by the following signs: immoderate vomiting, * * * coldness of the extremities, and other like symptoms, which greatly terrify the attendants, and often destroy the patients in twenty-four hours."—*Ibid*, p. 146.

1. That opinion is divided as to whether cholera is or is not contagious.
2. That its contagious nature has never been demonstrated; the proofs in support of its contagious character never amounting to more than probability.
3. That its outbreak and its zones in India, demonstrate, to a certainty, its capability of arising without contagion, and probably from telluric influence.
4. That it is admitted by all, even the most ardent contagionists, that if it be contagious, its contagious character is less than that of typhus and typhoid fever, of scarlatina, small-pox, measles, &c.
5. That assuming this, there exists no good grounds for excluding cholera patients from hospitals adapted for the reception of other epidemic or contagious diseases.
6. That the shutting of such hospitals against them has an injurious effect on the whole mass of the people, both in regard to health and moral feeling.
7. That inculcating a great fear of contagion tends to demoralize the people in their social relations.
8. That we should inculcate these two principles—

That, even admitting cholera to be contagious, it is less so than other epidemic diseases with which the people have been long familiar; and that their best power of resisting it, whether depending on atmospheric or telluric influence, or on either or both combined with contagion, is by maintaining mind and body in the most perfect condition of health.

With Body I alone deal, and on the observance of sanitary rules depends its best degree of vigour and health.

These sanitary rules are simple—good air, good water, good food, cleanliness, and temperance.

I conclude with an extract from the Circular of the Commissioners of Health, Ireland, on the threatened outbreak of cholera, September, 1848 :—

"The medical treatment of cholera being much more simple than that of fever, can be efficiently conducted at the dwellings of the patients, and the required assistance to medical treatment can be effectively given by the families and friends of the sick, as by nurses in hospitals.

"The Commissioners of Health do not, however, advise that, in the event of the appearance of cholera, hospital relief should be altogether dispensed with, as there is always, particularly in cities, a large class of destitute persons who have neither friends nor the means of support, and to such persons, efficient relief cannot be afforded except in hospitals. * * * The Commissioners of Health believe that, besides the advantage of affording prompt and efficient relief to destitute persons affected with cholera, the admission of such patients into the ordinary hospitals of the country would be attended with salutary moral effects. It would

greatly lessen, if not quite remove, the generally prevailing apprehensions respecting the highly contagious nature of the disease, and would thus dispose the friends and relatives of the sick to be more active and constant in their attention. *The sick, themselves, no longer treated like persons stricken by a pestilence, would acquire confidence, and with confidence a strength that would enable them the better to struggle with the disease.*"

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